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EXAMINER

MEINECKE DIAZ, SUSANNA M

ART UNIT PAPER NUMBER

3623

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/043,403

Applicant(s)

HAY ET AL.

Examiner

Susanna M. Diaz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 37-48 and 51 is/are pending in the application.
- 4a) Of the above claim(s) 43,44 and 47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-42,45,46,48 and 51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/14/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Non-Final Office action is responsive to Applicant's response to the Requirement for Information under 37 CFR 1.105, filed February 11, 2005.

Claims 37-48 and 51 are pending.

Claims 43, 44, and 47 stand as withdrawn.

Claims 37-42, 45, 46, 48, and 51 are presented for examination.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it uses the word "disclosed." Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 37 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 37 recites an apparatus that comprises a database and various software modules. The database is not expressly recited as being an electronic database structure and could therefore just be a mere collection of data (in electronic or non-electronic form). The various software modules (i.e., the profit estimator, product selector, production estimator, pricing engine, and farm selector) are not recited as executed by hardware (e.g., a computer or processor); therefore, these software modules are software *per se* and do not qualify as the structural elements required to form an apparatus. Consequently, claim 37 recites an apparatus that fails to comprise any structural elements, which is improper. Furthermore, a mere collection of data is non-statutory and software *per se* is non-statutory; therefore, claim 37 is non-statutory. It is respectfully suggested that the database be expressly recited as an electronic database, the recitation of a processor or computer be added to the claim, and the software modules be recited as executed by said processor or computer.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 37 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 37 recites an apparatus that comprises a database and various software modules. The database is not expressly recited as being an electronic database structure and could therefore just be a mere collection of data (in electronic or non-electronic form). The various software modules (i.e., the profit estimator, product selector, production estimator, pricing engine, and farm selector) are not recited as executed by hardware (e.g., a computer or processor); therefore, these software modules do not qualify as the structural elements required to form an apparatus. Consequently, claim 37 recites an apparatus that fails to comprise any structural elements, which is improper. It is respectfully suggested that the database be expressly recited as an electronic database, the recitation of a processor or computer be added to the claim, and the software modules be recited as executed by said processor or computer.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 37-42, 45, 46, 48, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Latacz-Lohmann et al. ("Auctioning Conservation Contracts: A Theoretical Analysis and an Application") in view of Clark, Jr. et al. (U.S. Patent No. 6,064,943).

Latacz-Lohmann analyzes an approach to auctioning conservation contracts. As part of these conservation programs, farmers may receive money from a government body as an incentive to alter farming practices to be more environmentally friendly. For example, Latacz-Lohmann discloses one scenario of a simple auction in which farmers submit bids for participation in a government subsidized farming program based on "targeting program objectives" (§§ 30, 32). As part of the "targeting program objectives" scenario:

...It is assumed that the program administrator has information sufficient to estimate the prospective environmental benefits of enrolling each farmers' land. This allows him or her to rank all bids for acceptance based on the ratio of benefits to public cost of enrolling the land. This "cost-effectiveness targeting" was employed during CRP signups 10-12. In our model we simulate the outcome of this mechanism by ranking all bids for acceptance according to the ratio of nitrogen reduction (Mathematical Expression Omitted) to the individual farmers' (optimal) bids. (§ 32)

The sponsoring government agency selects the farmers based on eligibility criteria (§ 10) and the respective amount of payment offered to the selected farmers is based on a cost-benefit analysis:

4. Perfect-information offer system: This variant is intended to serve as "best-case" reference regarding program cost-effectiveness. It is assumed that the government has perfect information about each farmer's opportunity costs and potential contribution to the program goals and therefore can offer each farmer a payment equal to or marginally above his or her opportunity cost. The farmers are accepted in the order of their benefit-cost ratios within the overall budget. (§ 36)

The cost-benefit analysis and program participation requirements are based on various factors, including risk factors, variability of profits between program participation versus non-program participation (i.e., profit differential), hectares of land subject to program participation requirements, soil quality, amount of reduction in fertilizer usage and cost thereof, etc. (¶¶ 21-29). Ideally, both the farmers and the conservation program sponsors have access to all of the relevant cost-benefit information so that the farmers can assess if it is worthwhile for them to participate in the conservation program while the sponsors can dole out their incentives to farmers who will yield the greater environmental benefit in light of the incentives provided (¶¶ 9, 12, 14, 33, 36, 42).

[Claim 37] As per claim 37, Latacz-Lohmann discloses that both the farmers and conservation program sponsors have access to all relevant cost-benefit information (as discussed above), including a profit differential between program versus non-program participation. While Latacz-Lohmann makes specific reference to growing a crop with reduced nitrogen fertilizer usage as opposed to the recited crops that are different from a crop of interest; the Examiner asserts that the cost-benefit analysis of growing a given crop with more fertilizer versus less fertilizer is analogous to that associated with growing one crop versus another type of crop (e.g., corn versus beans) since both types of analysis work to solve the same problem, i.e., promoting farming techniques that are more environmentally friendly. Furthermore, the Examiner submits that it is old and well-known in the art of subsidized farming programs to provide incentives to farmers to grow different crops altogether. For example, certain crops prevent soil erosion more than others; therefore, farmers may be paid incentives to grow one of these more "soil

friendly crops.” Also, several countries offer their farmers incentives to grow legal crops instead of more profitable crops, such as those used to produce drugs. Since conservative programs commonly include both incentives to alter fertilizing techniques (as taught by Latacz-Lohmann) as well as to encourage the harvesting of more environmentally friendly crops, the Examiner submits that Latacz-Lohmann's cost-benefit analysis solves a similar problem in both arenas; therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to apply Latacz-Lohmann's cost-benefit analysis to a conservation program that encourages farmers to grow a crop of interest (different from the crops they current harvest) in order to promote more environmentally friendly farming practices while providing the program sponsor with the greatest bang for the buck without compromising the economic survival of participating farmers.

Latacz-Lohmann does not expressly teach that the cost-benefit analysis is based on a current market price for each crop, yet (as discussed above), Latacz-Lohmann does disclose the computation of a profit differential between program versus non-program participation. The Examiner submits that it is old and well-known in the art to utilize the current or expected sale price of a crop to assist in estimating an expected profit. Since Latacz-Lohmann's model requires valuations of items to be sold as part of the profit analysis (¶¶ 9, 11), the Examiner submits that an understanding of current market price for each crop would be crucial in assessing not only a profit differential, but also in guiding a program sponsor in determining a reasonable incentive price to offer each farmer. Therefore, the Examiner submits that it would have been obvious to one



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of ordinary skill in the art to modify Latacz-Lohmann's collection of analysis data (i.e., database) to include current market price data for crops which are different from the crop of interest in order to enable the farmers and program sponsors to have more convenient access to data that yields a more accurate understanding of which program terms would behoove all participants, thereby addressing the limitation "a database containing current market price data for crops which are different from the crop of interest."

As per claim 37, a modified version of Latacz-Lohmann's profit-analysis to apply to incentives for growing different crops has been discussed, thereby addressing the limitation "estimating a profit that the farmer can expect to earn by growing at least one of the crops which are different from the crop of interest."

As per claim 37, Latacz-Lohmann assesses a varying degree of nitrogen fertilizer reduction for each farm and the effects thereof (§§ 25-26). In light of the analogy made between growing different crops versus growing a crop at a reduced nitrogen fertilizer level, the Examiner submits that the selection of which of the "at least one of the crops which are different from the crop of interest" is analogous to selecting one of various potential levels of reduced nitrogen fertilizer usage. Therefore, for the reasons already presented above in relation to the analogy between the two concepts, the Examiner submits that the modified version of Latacz-Lohmann's evaluation of varying degrees of nitrogen fertilizer reduction for each farm and the effect thereof (§§ 25-26) to apply to a selection of one of multiple crops for the common purpose of promoting more environmentally friendly farming practices addresses the limitation that deals with

utilizing profit data "to select a crop from the at least one of the crops which are different from the crop of interest."

Regarding claim 37, Latacz-Lohmann assesses a varying degree of nitrogen fertilizer reduction for each farm and the effects thereof, taking into account a corresponding yield and numbers of hectares (§§ 25-26), which when modified in light of the alternate crop analogy presented above addresses the limitation of utilizing the product selection data "for estimating a quantity of the crop of interest to be produced by a farmer on acreage associated with the crop selected by the product selector."

Regarding claim 37, Latacz-Lohmann discloses that a program sponsor "can offer each farmer a payment equal to or marginally above his or her opportunity cost" (§ 36), which is based on a profit expectation and when modified in light of the alternate crop analogy presented above addresses the limitation of utilizing the production estimate "to develop a price to be offered the farmer of interest to grow the quantity of the crop of interest estimated...based at least in part on the profit that the farmer can expect to earn by growing the crop selected."

Regarding claim 37, Latacz-Lohmann discloses that finalized contracts are actually awarded through an auction (§§ 1, 36, 45), which when modified in light of the alternate crop analogy presented above addresses the limitation of contracting "with the farmer of interest to grow the quantity of the crop of interest at the price developed by the pricing engine."

Further regarding claim 37, Latacz-Lohmann fails to expressly teach that all data is stored in a database accessible by a profit estimator, which in turn is in

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communication with a product selector, a production estimator, a pricing engine, and a farm selector. In other words, the analysis of Latacz-Lohmann is not expressly disclosed as carried out utilizing software implemented on a machine (e.g., a computer) that communicates with a database. However, the Examiner submits that it is old and well-known in the art of automation to utilize software implemented on a computer in order to perform calculations and analyses commonly performed by hand (i.e., by a human user) in order to mitigate calculation/analysis errors and increase calculation/analysis speed. As a matter of fact, Clark discusses the desirability of automating the collection and analysis of agronomic data. Clark introduces the improvement of the disclosed invention over the prior art as follows:

Because of the increasing competition and mechanization of farming, data collection has become even more important for the farmer so that he might keep better track of his costs to determine the profitability of various crops planted on various fields throughout his farm. Typically, a farmer works on a close margin such that accurate cost accounting can be critical in helping a farmer make a decision as to the various crops planted and grown. Unfortunately, for various reasons, computers have not been successfully applied to the farmer's data collection and analysis problem.

In order to solve these and other problems in the prior art, the inventors herein have succeeded in designing and developing a unique computer network which includes a portable computer with a user-friendly interface for on-the-spot data recording by the farmer having sufficient capabilities for satisfying virtually all of his information handling needs. This computer network is composed of a client-client-server configuration. (col. 1, lines 45-62)

As discussed above, Latacz-Lohmann addresses the importance of a farmer having the capability of quickly and accurately assessing crop-related factors to

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determine whether or not it would behoove him/her to participate in a conservation program, based at least in part on profit differential considerations. Similarly, Clark assists farmers in quickly and accurately making crop-related decisions, based at least in part on profit considerations. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to utilize an automated computer system with software, including a database, a profit estimator, a product selector, a production estimator, a pricing engine, and a farm selector to carry out the methodology and analysis addressed by the modified version of Latacz-Lohmann in order to complete the required methodology and analysis more quickly and accurately, which is a well-known benefit of computer automation and is particularly applicable to the farming industry (as suggested by Clark).

[Claims 38, 39] Claims 38 and 39 recite limitations already addressed by the rejection of claim 37 above; therefore, the same rejection applies. Furthermore, it is noted that the computer-automated apparatus of claim 37 would necessarily require "an article of manufacture storing machine readable instruction which, when executed by a machine, cause the machine to offer a contract to a farmer to grow a crop of interest" (i.e., software).

Regarding claim 39, Latacz-Lohmann discloses that risk factors are taken into account when adjusting the price to be offered a farmer of interest to grow the quantity of crop with desired fertilizer levels (¶¶ 21-26), which when modified in light of the alternate crop analogy presented above addresses the limitations "identifying a risk factor associated with the farmer of interest; and adjusting the price to be offered the

farmer of interest to grow the quantity of the crop of interest based at least in part upon the risk factor.”

[Claims 40-42, 48] Claims 40-42 and 48 recite limitations already addressed by the rejection of claim 37 above; therefore, the same rejection applies.

Furthermore, it is noted that the computer-automated apparatus of claim 37 would necessarily require “an article of manufacture storing machine readable instruction which, when executed by a machine, cause the machine to offer a contract to a farmer to grow a crop of interest” (i.e., software).

As per claim 40, neither the modified Latacz-Lohmann nor Clark expressly teaches that a current market price is ascertained by accessing at least one on-line market. However, Clark does disclose the benefits of allowing farmers to access real-time farm and crop-related data on-line via a server. For example, this arrangement facilitates the sharing of farm and crop-related information among various farmers who may have invaluable knowledge regarding a problem or decision that another farmer is currently facing (col. 2, line 55 through col. 3, line 14). Clark suggests that the ability to access needed data on-line in real time assists farmer in more quickly and confidently making informed decisions regarding their crops; therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to facilitate the capability of a user of the modified Latacz-Lohmann-Clark combination to electronically access at least one on-line market to ascertain at least one current market price in order to allow the user to quickly and confidently gather the most

up-to-date and likely most accurate crop-related market price data for promoting more informed decision-making.

As per claims 40-42, Latacz-Lohmann discloses that farmers and program sponsors participate in an auction and evaluate bids based on an estimated economic effect on land usage (¶¶ 9, 14-26, 36), which when modified in light of the alternate crop analogy presented above addresses the limitations "estimating an economic effect that substituting the crop of interest for the at least one of the products will have on land usage" (claim 40), "taking market action based upon the estimated economic effect" (claim 41), and "wherein the commodity market is associated with at least one of the at least one of the products to be replaced by the crop of interest" (claim 42).

Regarding claim 48, Latacz-Lohmann discloses that the farmers evaluate and submit bids to a conservation program sponsor; however, neither Latacz-Lohmann nor Clark expressly teaches the use of at least one of an electronic buying agent or an electronic selling agent to carry out the bidding. However, Official Notice is taken that the use of electronic buying and selling agents to negotiate bidding and contracts thereof is old and well-known in the art of automated auctions. These electronic agents quickly and efficiently negotiate bidding terms while minimizing the effort and time that would otherwise be spent by human negotiators in sorting through and agreeing to various bidding and contract terms. Since Latacz-Lohmann already discloses the concept of bidding for contracts, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the Latacz-Lohmann-Clark combination to utilize electronic buying and selling agents to

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negotiate bidding and contracts thereof in order to quickly and efficiently negotiate bidding terms while minimizing the effort and time that would otherwise be spent by human negotiators in sorting through and agreeing to the various bidding and contract terms.

[Claims 45, 46]      Claims 45 and 46 recite limitations already addressed by the rejection of claim 40 above; therefore, the same rejection applies.

Furthermore, Latacz-Lohmann discloses that risk factors such as land quality, which is location-dependent, may be taken into account when assessing profits and potential for environmental improvements (§§ 10, 26), which when modified in light of the alternate crop analogy presented above addresses the limitation of receiving a contractual offer to grow a crop of interest based “upon at least one risk associated with the geographic location of the identified farms” (claim 45). As per claim 46, neither Latacz-Lohmann nor Clark expressly teaches that at least one of weather or logistics risk is taken into account as one of the risk factors used to assess conservation program participation. However, the Examiner submits that it is old and well-known in the art of farm risk management that weather risks are commonly taken into account when assessing the risk factors associated with a farm. For example, farmers would likely have to pay higher insurance premiums in areas where weather patterns, such as periodic flooding, pose great dangers to the integrity of the crops. Since Latacz-Lohmann also teaches the importance of assessing the risk factors associated with a farm when evaluating the cost-benefits of a farmer’s participation in a conservation

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program and weather is an important risk factor when making similar evaluations, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the Latacz-Lohmann-Clark combination to incorporate weather risk in the assessment of risk factors of a farm when evaluating the cost-benefits of a farmer's participation in a conservation program in order to provide for a more comprehensive and accurate analysis.

[Claim 51] Claim 51 recites limitations already addressed by the rejection of claims 37, 38, 40, and 45 above; therefore, the same rejections apply.

Furthermore, it should be noted that Latacz-Lohmann discloses the cost-benefit analysis of various farmers adopting conservation measures that will promote more environmentally friendly farming practices in each farm's general region. Only those farmers yielding the highest cost-benefit are selected as eligible to participate in an auction for sponsor subsidies (§§ 21-36), thereby addressing the limitations that are involved in computing a difference between first and second sets of aggregated inputs and outputs to estimate at least one effect growing the crop of interest will have on the region of interest.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.




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"Crosspoint and Cargill Join in \$16.2 Million Funding of ePropose to Drive Adoption of Revolutionary B2B eCommerce Solution" -- Discusses Cargill's funding of ePropose™, a solution for B2B eMarkets that utilizes software objects.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (571) 272-6733. The examiner can normally be reached on Monday-Friday, 10 am - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Susanna M. Diaz  
Primary Examiner  
Art Unit 3623

May 2, 2005